Patent Claims

1. A cooling arrangement for the admission of a cooling gas to a first cavity (9), in particular in a gas turbine of a power plant,

- having at least one cooling-gas passage (19) which is arranged in a wall (11), separating the first cavity (9) from a second cavity (10), of a first component (6) and which connects the first cavity (9) to the second cavity (10) in a communicating manner,
- a second component (16) bearing against the wall (11) on a bearing side (15) remote from the second cavity (10) and separating the first cavity (9) there from a third cavity (12),
- the second component (16) being displaceable along the wall (11) within a predetermined range of displacement (22),
- an orifice region (20), facing the first cavity (9), of the cooling-gas passage (19) being dimensioned and/or positioned in such a way that its orifice cross section (21) projects from the range of displacement (22) at least to such an extent that it is open at least with a predetermined minimum cross section in any position of the second component (16) within the range of displacement (22).

2. The cooling arrangement as claimed in claim 1, characterized in that the cooling-gas passage (19) has a predetermined nominal cross section (23) outside its orifice region (20), this nominal cross section (23) being smaller than the cross sections in the orifice region (20).

3. The cooling arrangement as claimed in claim 2, characterized in that the cooling-gas passage (19)

constantly has the nominal cross section (23) outside the orifice region (20).

4. The cooling arrangement as claimed in claim 2 or 3, characterized in that the minimum cross section is the same size as or larger than the nominal cross section (23).

5. The cooling arrangement as claimed in one of claims 1 to 4, characterized in that the cooling-gas passage (19), in its orifice region (20), widens toward the first cavity (9) up to the orifice cross section (21).

6. The cooling arrangement as claimed in claim 5, characterized in that the orifice region (20) is formed by a bevel.

7. The cooling arrangement as claimed in one of claims 1 to 4, characterized

- in that the cooling-gas passage (19) merges into its orifice region (20) by means of an abrupt cross-sectional widening (24),
- the cross section in the orifice region (20) being constant from the cross-sectional widening (24) up to the orifice cross section (21).

8. The cooling arrangement as claimed in one of claims 1 to 7, characterized

- in that at least two cooling-gas passages (19) are provided,
- in that a groove (25) is formed in the wall (11) on the bearing side (15), this groove (25) connecting the at least two cooling-gas passages (19) to one another in such a way that the orifice regions (20) of these

cooling-gas passages (19) are formed by the groove (25) or merge into the groove (25).

9. The cooling arrangement as claimed in one of claims 1 to 8, characterized

- in that the first component is a heat shield (6) of a gas turbine (1), this heat shield (6), with regard to a rotation axis of a rotor (2) of the gas turbine (1), being exposed radially on the inside to the third cavity (12) and radially on the outside to the first cavity (9) and the second cavity (10),
- in that the wall (11) projects radially outward from the heat shield (6),
- in that the wall (11) extends in the circumferential direction,
- in that a plurality of cooling-gas passages (19) are arranged in the wall (11) in a distributed manner in the circumferential direction.

10. The cooling arrangement as claimed in claim 9, characterized in that the second component is a further heat shield or a root (13) of a guide blade (5) of the gas turbine (1).

11. The cooling arrangement as claimed in claim 9, characterized in that the second component is a seal (16) which bears against the wall of the heat shield (6) on the one hand and against a further heat shield or against a root (13) of a guide blade (5) of the gas turbine (1) on the other hand and seals a gap (14) connecting the first cavity (9) to the third cavity (12).

12. The cooling arrangement as claimed in one of claims 1 to 9, characterized in that the second component is a seal

(16) which seals a gap (14) which is formed between the first component (6) and a third component (13) and connects the first cavity (9) to the third cavity (12).

13. The cooling arrangement as claimed in one of claims 1 to 12, characterized in that the positioning and/or dimensioning of the orifice region (20) is selected in such a way that the orifice cross section (21) is not open toward the third cavity (12) in any position of the second component (16) within the range of displacement (22).

14. The cooling arrangement as claimed in one of claims 1 to 13, characterized

- in that the first component (6), the second component (16) and the wall (14) extend in an annular manner relative to a common longitudinal center axis,
- in that the wall (11) separates the first cavity (9) axially from the second cavity (10),
- in that the second cavity (16) separates the first cavity (9) radially from the third cavity (12),
- in that the second component (16) is radially displaceable relative to the first component (6),
- in that the cooling-gas passage (19) opens into the first cavity (9) in the region of an outer side (8), lying radially on the outside, of the second component (6).

15. The cooling arrangement as claimed in claims 8 and 14, characterized

- in that a plurality of cooling-gas passages (19) are formed in the wall (11) in a distributed manner in the circumferential direction,
- in that the groove (25) extends in the circumferential direction.